

Comprehensive
biogas solutions

norvento
enerxía

Solutions for
agro-industry and
primary sectors

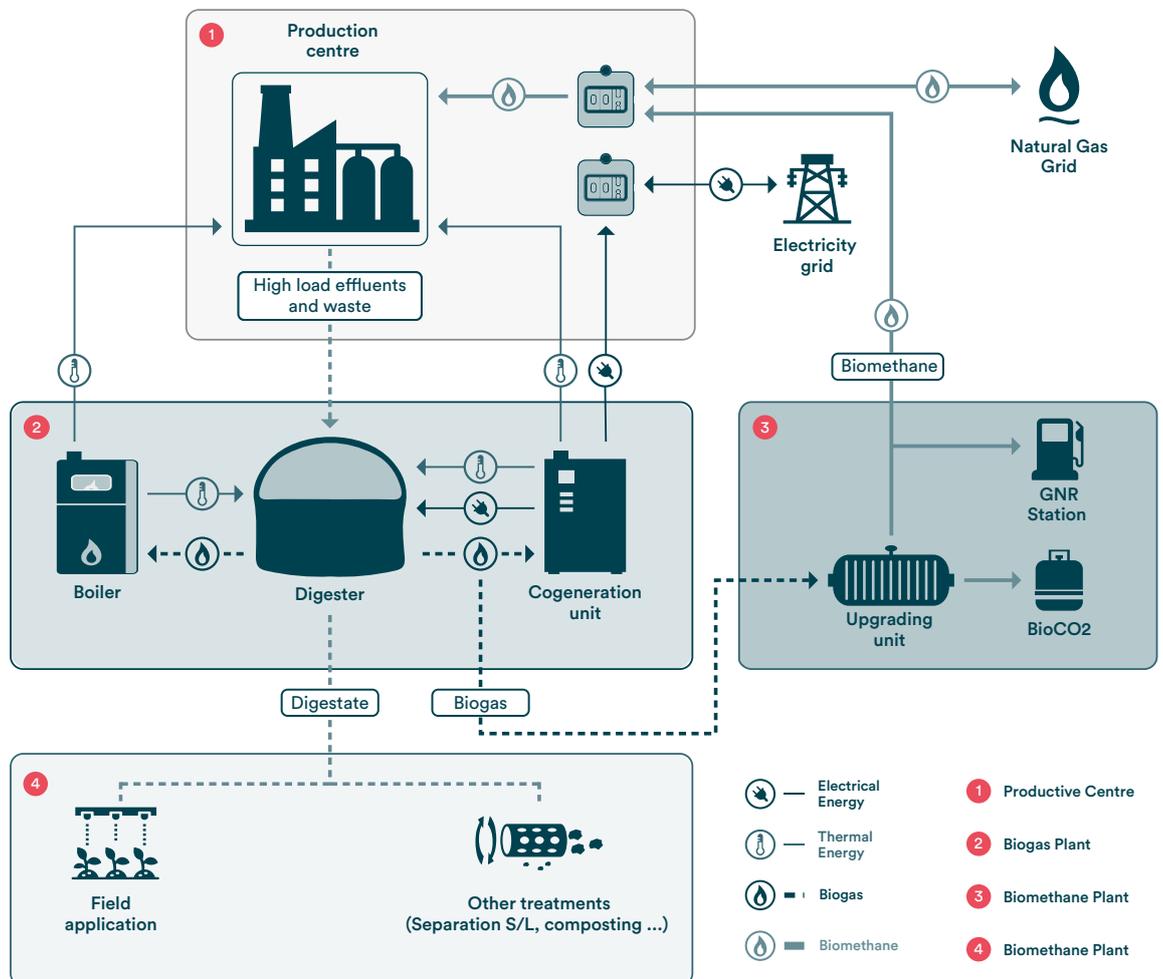


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Biogas solutions and their applications

Organic waste energy potential from the processes of the agro-industry and primary sectors can be harnessed through the generation of biogas.

Biogas is a renewable resource that can be reincorporated into the production process in the form of electrical and thermal energy, improving the efficiency of the production centre. It allows saving in the consumption of fossil fuels and electricity from the grid. Alternatively, through a process known as 'upgrading', it can be transformed into biomethane and can be incorporated into the natural gas grid, allowing its sale to third parties.



- We adapt our designs to the particular needs and conditions of each production centre
- We implement circular economy schemes for flows of raw materials and energy, seeking for Zero-Waste schemes

		AGROINDUSTRIAL SECTOR	PRIMARY SECTOR
Preliminary scoping	<p>It consists of a preliminary assessment of the client's case.</p> <ul style="list-style-type: none"> • Evaluation and availability of residues and methanogenic potential. • Analysis of energy load profile curves. • Technical-economic feasibility study. 	✓	✓
Piloting and analysis of technical alternatives	<p>For certain types of waste, a more precise characterization of the anaerobic digestion process and the optimization of the process design is required. We collaborate with leading Universities and top Technological Centres at European level.</p>	✓	
Biogas plant pre-sizing	<p>It is a basic design consisting of a PFD and sizing the main components of the process.</p>	✓	✓
Drafting of basic project for permitting process	<p>We prepare all the necessary documentation to comply with all the administrative formalities required by the legislation.</p>	✓	✓
Environmental procedures	<p>For the most complex facilities, we also prepare environmental impact assessments and reports for obtaining environmental permitting.</p>	✓	
Turnkey project	<p>Comprehensive solution under an EPC contract that includes scoping, detailed engineering, construction project developing, construction including commissioning of the plant and Operation & Maintenance.</p>	✓	✓
Commissioning	<p>We are involved in the commissioning and production ramp-up of the plant until the biogas yield reaches plant capacity.</p>	✓	✓
Operation & Maintenance service	<p>We provide the client with different maintenance packages: from staff training to full-fledged contracts for preventive and corrective maintenance.</p> <p>Our 24/7 Control Centre is available to monitor the installation and take action immediately, for client's ease of mind.</p>	✓	✓

**Slaughterhouse in the
urban area of Silleda,
Galicia**

**Slaughterhouse
and meat processing**

Self-consumption:

- Cogeneration 400 kW_e
- Boiler 500 kW_t

Objective:

- Minimization of waste management costs
- Reduction of electricity and natural gas consumption
- Reduction of GHG emissions



**Farm in Xustás,
Galicia**

**Cattle Farm with
150 beef cattle**

Self-consumption:

- Cogeneration 50 kW_e
- Boiler 30 kW_t

Objective:

- ACS supply
- Homogenization and stabilization of slurry
- GHG reduction
- Reuse of manure as bedding material



**Cheese factory in
Taboada, Galicia**

**Cattle farm + cheese
factory**

Self-consumption:

- Cogeneration 100 kW_e
- Boiler 300 kW_t

Objective:

- Biogas supply for steam boiler
- Reduction of electricity consumption from the grid and back-up
- Reduction of the environmental footprint of the cheese factory





**Comprehensive
design**

We use the most innovative platforms in industrial design and BIM methodology, for efficient project management.

**Financing
solutions**

We put at your disposal a range of financing solutions from private investment, renting, search and processing of public aid.

**Monitorization
and control**

We integrate elements with IoT capacity with our SCADA, capable of monitoring the installation in real time from any device, always in connection with our 24/7 control centre.

**Operation
and maintenance**

Norvento offers flexible O&M schemes, from employee training to comprehensive maintenance packages.

Norvento Enerxía is a Spanish business group in the renewable energy sector, operating across the entire value chain, from equipment design and manufacturing to plant and facility development, construction, and operation. Founded in 1981, Norvento develops, manufactures, and markets cutting-edge technology out of its own factory in Vilalba (Lugo, Spain), with a wide range of products, such as medium power wind turbines, electronic power converters for distributed energy and microgrids, SCADA systems for microgrid control, biogas and biomass plants, photovoltaic plants, and energy management systems.



More than 35 years of renewable technology.

An extensive track record coupled to continuous investment in R&D, gives Norvento a competitive edge to undertake any kind of development for smartgrid control, both on and off-grid, operate globally and provide comprehensive solutions with excellence in quality and innovation.